TRANSACTIONS OF THE NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 14, 1900.

The President, B. Farquhar Curtis, M.D., in the Chair.

CAVERNOUS ANGIOMA OF THE TONGUE AND MOUTH.

Dr. Charles L. Gibson presented a woman, twenty-eight years old, the mother of four children, who, when about sixteen years old, first noticed a black spot on her tongue. This increased in size very slowly until four years ago, when, after the birth of a child, it began to grow quite rapidly, and extended to the floor of the mouth, one tonsil, and the hard and soft palates.

Dr. Gibson said he was somewhat puzzled as to how to treat the case. Any cutting operation would be very bloody, if not impossible, on account of the extent and character of the lesion.

Dr. Charles N. Dowd said he had operated upon one case of angioma of the tongue; the growth involved about one-half of the tongue, which was so large that it could scarcely be kept in the mouth. The tumor was cut away without any particular trouble, although the hæmorrhage was rather difficult to deal with. The cut surfaces oozed constantly, as from a sponge. It was finally controlled by the application of silk ligatures. He thought the case shown by Dr. Gibson was amenable to surgical treatment. After thorough stretching, and with the aid of a mouth-gag and retractors, such an exposure is obtained that one can do almost anything in the mouth without the necessity of an external incision. The speaker recalled one case of epithelioma of the tongue and anterior pillar of the pharynx, in which he was able to remove one-half the tongue, the anterior pillar of the pharynx, and a part of the tonsil through the mouth without any particular difficulty after ligation of the external carotid artery, the patient never having a local recurrence.

Dr. George Woolsey said he thought it would prove a very difficult matter to deal satisfactorily with the angioma presented by Dr. Gibson, on account of the extent of the lesion and its uncertain limitations, for it involved not only the tongue but also the floor of the mouth, the soft palate, and the fauces. These growths are progressive and often extend into the surrounding tissues, so that it is difficult to define their limits. The speaker said that on this account a cutting operation would be a serious undertaking and would prove of doubtful efficacy. In a case of angioma of the foot upon which he recently operated the growth extended so deeply into the tissues that it would have been necessary to amputate the foot in order to remove the growth completely.

The President, Dr. Curtis, suggested that electrolysis might be tried.

CHARCOT'S DISEASE OF THE KNEE-JOINT: RESECTION.

Dr. Alexander B. Johnson presented a woman, fifty-eight years of age, who was admitted to the Roosevelt Hospital, November 10, 1899, with the following history:

She is married and the mother of several healthy children. Her husband is also a healthy man. There is no history of syphilis. About eight months ago, while apparently in ordinary health, she received a very slight injury to the right knee-joint, which passed almost unnoticed. In the course of a few weeks thereafter some swelling of the joint appeared, which was not painful. The swelling persisted. She was attended by a surgeon, who considered the trouble a traumatic synovitis of the knee-joint. By him the joint was fixed and kept quiet in plaster of Paris. The swelling failed to subside, and, after rather prolonged fixation, the knee-joint was aspirated and some fluid drawn off. The affection was then regarded as probably tubercular and an injection of iodoform and glycerin was made at this time. The fluid soon reaccumulated in the joint and the knee continued swollen, and a gradually increasing relaxation of the lateral ligaments was noted, accompanied by a good deal of disability. The joint was never painful. Upon admission to the hospital she was well nourished, not notably anæmic. There was loss of knee-jerk on the sound side; there was a beginning perforating ulcer underneath the ball of the foot on each side. There were paræs-

thesia in both lower extremities. Formication and slightly diminished sensibility with sensations of heat and cold. Slight ataxia was also noted. The Argyll-Robertson pupil was absent. Dr. Starr states that out of three hundred cases of tabes dorsalis examined, the Argyll-Robertson pupil was present in 276 cases and absent in the rest.

Upon November 18 the joint was excised under ether. The joint lesions noted during the operation were as follows: Upon opening the joint a large quantity of brownish semitransparent fluid resembling an altered synovia escaped. The cartilaginous surface of the patella was in a condition of fibrous degeneration. At the junction of the cartilaginous surface of the patella with the synovial membrane there were developed numerous cartilaginous and bony plates. The pouch underneath the quadriceps extensor muscle was greatly dilated. The synovial membrane of this pouch was studded over its entire surface with small calcareous plates. The membrane was dark reddish brown in color, rough, and in a condition of papillary synovitis. The cartilages covering the condyles of the femur were in a conditon of fibrous degeneration. The external condyle was normal in contour. The internal condyle presented a deep cavity, measuring more than an inch across and an inch in depth upon its lower aspect, which corresponded to a projection of nearly the same size upward of the condyle of the tibia. The cavity in the femur was everywhere lined with a rough foreign fibrous tissue resembling degenerated cartilage. The lateral ligaments of the knee-joint were greatly relaxed, permitting of wide lateral excursions of the tibia. The semilunar cartilage on the outer side was fairly normal; that upon the inner side was represented by an irregular mass of fibrous tissue infiltrated with calcareous salts. The outer condyle of the tibia was covered by rough fibrous cartilage whose contour was normal. Upon the middle of its posterior aspect there projected upward an osteophyte, measuring one inch in length and three-quarters of an inch in diameter at its base. It was cylindrical in shape and covered by cartilage of normal character. The inner condyle of the tibia presented from its superior surface the projection already referred to. This prominence was surrounded by a deep groove, corresponding to the edges of the cavity in the internal condyle of the femur. The posterior ligaments of the joint were greatly thickened and infiltrated with

calcareous material, so that they could be cut only with difficulty with a knife. The pouches of synovial membrane behind the condyles of the femur were in a condition of papillary synovitis. No area of denuded bone was noted upon the ends of either tibia or femur. Upon section the condyles of the femur showed no abnormality of bone structure, but the application of the saw and drill to the tibia showed an abnormal degree of softness in the external condyle of the tibia and an ivory-like density of the internal condyle, which made the process of drilling for the sutures very laborious. After drilling, the bones were united by two sutures of heavy quadrupled catgut. The skin wound was closed with sutures, and rubber tissue strips were inserted in either angle of the wound for drainage, and the limb dressed and encased from the toes to the groin in plaster of Paris. Following the operation a moderate accumulation of blood-clot occurred in the wound, causing a slight rise of temperature for a few days. This, however, did not require an opening of the wound, and the line of incision in the skin healed by primary intention. A notable circumstance in this case was that the patient did not suffer after the operation from any pain. She slept on the night of the operation quietly without morphine, nor has she ever complained of pain at the site of the operation since. The diagnosis of a neuropathic joint was further strengthened during the time she remained in the hospital by the occurrence of two severe stomach crises lasting each for more than twenty-four hours, and apparently having no relation to the character or quantity of food. She also had a tolerably severe bladder crisis. Her general health has in other respects continued good. Inspection of the radiograph, also presented, shows the bones without any tendency to unite, and this after a period of four months. The femur even seems to be undergoing a certain degree of irregular absorption upon its lower surface, due, possibly, to pressure in walking. With a light plaster-of-Paris case she is able to get about without crutches and in tolerable comfort. During her stay in the hospital of twelve weeks absolute fixation of the knee was kept up. She also received tonics, thyroid extracts, and various preparations of phosphorus. The question of what can be done further in this case will depend upon whether she can get about comfortably with a suitable support from the knee, or whether after a time she may not prefer the removal of

the extremity. From the appearance of the limb at present, bony union between the tibia and the femur is not to be expected.

DR. ROYAL WHITMAN asked Dr. Johnson whether union was to be expected after resection of the joint in this class of patients? In one other case which had come under his observation union has not taken place.

DR. JOHNSON replied that while he had never personally seen union occur after resection of a Charcot joint, a number of such cases have been reported. Dr. Hotchkiss had informed him that he had seen such an instance, and Dr. Willy Meyer has had one successful case. It is known that ordinary fractures in tabetics heal very well, and ordinary wounds apparently also heal without difficulty.

Dr. Johnson said he was induced to operate in this case on account of the good condition of the patient and the slight inroads which the disease had made in other directions. The patient now is without the slightest pain and walks with tolerable comfort. A metal splint surrounding the joint would probably render locomotion still more comfortable, or, if the patient desired it, it would be perfectly proper to amputate the limb.

DR. PARKER SYMS said that some years ago he investigated this subject quite thoroughly, and he found that while fractures in tabetic patients united very readily,—sometimes even more so than in healthy subjects,—joint excisions did not result favorably.

DR. OTTO G. T. KILIANI said that about a year ago he resected the knee of a tabetic patient, and after apparent union had taken place the entire joint broke down. This was due to a fatty degeneration of the bone, and an amputation subsequently became necessary.

DR. ELLSWORTH ELIOT, JR., referred to a case of resection of the knee for Charcot's joint in which the result, ten years after operation, was quite unsatisfactory, the function of the joint being more impaired than it was before the operation. It was impossible for the patient to walk without the aid of a crutch. A secondary operation had been refused. The poor result in the case he had in mind was possibly attributable to the patient's weight, which was at least 200 pounds.

DR. GIBSON said that fractures in tabetic patients did not always heal kindly. He recalled one such case, where he was called upon to amputate because of a fracture of the leg, which failed to unite, although it had been properly treated in a hospital.

SARCOMA OF THE SUPERIOR MAXILLA: REMOVAL: NO RECURRENCE AFTER TWO YEARS AND SEVEN MONTHS.

DR. A. B. JOHNSON presented a girl, aged nine years, who was admitted to the Roosevelt Hospital, September 3, 1897, with the following history: For a number of months the mother had noticed a gradually increasing prominence of the left cheek above the incisor and canine teeth of the upper jaw close to the nose. The swelling had not been painful. There was no history of obstruction of the nasal fossæ. Upon examination, the child was found to be rather pale and undersized.

There was a tumor, firm in consistence with a rounded surface, apparently the size of an English walnut, attached to the left superior maxilla, its centre opposite the canine fossa, not tender, and causing by its presence a considerable deformity of the upper lip and cheek on the left side. The surface of the tumor was a dark bluish red in color; there was no ulceration. Nothing abnormal was noticed in the left nasal fossa nor in the roof of the mouth.

Operation September 13, 1897. Incision dividing the upper lip in the median line following the left ala of the nose upward along the left border of the nose, to near the inner canthus of the eye, and then outward along the lower border of the orbit to beneath the outer canthus.

The flap thus formed was turned upward and outward exposing the tumor. The two upper left incisors and the canine tooth were drawn, and the facial surface of the superior maxilla was cut with a chisel in a line surrounding the growth. The mass of bone and the tumor were then removed. It nearly filled the antrum and was beginning to involve the wall of the nasal fossæ. The floor of the orbit and the hard palate appeared to be healthy. The cavity thus created was packed with iodoform gauze and the wound in the skin was closed by sutures.

The superficial wound healed for the most part by primary intention, and the patient left the hospital in a few weeks. At the present time no sign of recurrence is discoverable. The cosmetic result is satisfactory, and the child's health appears to be good.

The report of the pathologists was that the growth appeared to be an osteosarcoma of a mixed type. The cells were partly

spindle formed, partly irregular; there were numerous giant cells.

DR. CURTIS said that several cases had recently been presented in which operations for malignant disease had been followed by long periods of immunity from recurrence, and the speaker suggested that all the members who had such patients under their control should look them up, and thus assist in gathering statistics on this valuable point.

DR. GEORGE E. BREWER said that about eighteen months ago he operated in a case almost identical with the one shown by Dr. Johnson. The patient was a child of eight years, with a mixed-celled sarcoma of the upper jaw which had infiltrated the bone for quite a considerable area. The entire upper jaw was removed, with the exception of the orbital plate and the zygomatic process. The child now wears an artificial jaw, and thus far has been free from all signs of recurrence.

DR. JOHNSON said that more than six years ago, he, together with Dr. Hotchkiss, removed a sarcoma of the lower jaw in a child. The growth was a central sarcoma, forming a very large tumor, and necessitating the removal of one-half the jaw. There have been no signs of recurrence up to the present time.

POST-TYPHOID SUPPURATIVE SYNOVITIS OF THE WRIST-JOINT.

DR. A. B. JOHNSON presented a woman, aged twenty-five years, who was admitted to the Medical Ward of the Roosevelt Hospital in October, 1899, with typhoid fever.

She passed through a typical and moderately severe attack of this disease. There were no serious complications. During convalescence, however, her right wrist became tender, painful, and swollen. She developed a slight amount of fever and was transferred to the Surgical Ward.

Upon admission, examination showed the right wrist-joint swollen, tender, and painful; the skin was not reddened. There was marked loss of function. Under fixation the joint grew slowly but steadily worse. A hypodermic needle was introduced into the joint and some drops of pus were evacuated. This pus was sent to the Bacteriological Laboratory of the College of Surgeons and Physicians of the Columbia University, where culture experiments were made by Dr. His, who found that the pus con-

tained a pure culture of typhoid bacilli. The wrist-joint was accordingly opened by a dorsal incision and a considerable quantity of purulent fluid was evacuated. In order to provide for more efficient drainage, the first row of carpal bones, with the exception of the pisiform bone, was removed. The joint was thoroughly irrigated, drained by strips of gauze; the greater part of the wound was closed by stitches and the limb was placed upon a palmar splint. The wound healed in the course of three weeks, and the patient left the hospital December 15, 1899.

At the present time, three months later, she has regained almost completely the functions of the joint; the motions of the fingers are perfect, although her grasp is not quite as powerful as it should be. Radiographs show very well the difference between the one which is a normal wrist and the one the case exhibited. One can see that the second row of carpal bones has accommodated itself very well to the lower end of the radius.

STRANGULATED PROPERITONEAL (RICHTER'S) HERNIA: PARTIAL ENTEROCELE.

DR. WILLIAM B. COLEY presented a lad, aged fifteen years, who was brought to the Hospital for Ruptured and Crippled at 5 P.M., February 27, 1900, with the following history:

He had had a double inguinal hernia from early childhood, the hernia having been first noticed on the left side at the age of one year and on the right at the age of three years. The herniæ were always reducible until the day before admission, when it came down on left side somewhat larger than usual, and could not be put back. Vomiting soon began, and continued at irregular intervals. The boy stated that he had had a slight movement of the bowels during the day. He had considerable pain, and could not keep any food in the stomach.

A physician was called, and after several attempts was unable to reduce the tumor.

Physical examination at the time of admission showed an elliptical tumor somewhat larger than a goose-egg, situated in the left inguinal region and not extending lower than the external ring. It had every appearance of a well developed properitoneal or interstitial hernia.

The contents seemed mostly fluid; a fluctuation was distinct, and the tumor was perfectly dull on percussion. The large

amount of fluid in the sac, the complete dulness on percussion, together with the excellent general condition of the patient (he was able to walk into the hospital, and seemed to be suffering but little from the trouble), suggesting that the case was one simply of strangulated omental hernia with marked effusion in the sac. The possibility of the presence of gut, however, caused him to advise immediate operation, which was performed as soon as preparation could be made. An incision was made three inches long over the centre of the tumor. The sac occupied a position entirely beneath the external oblique aponeurosis, which had been dissected up in various directions. The aponeurosis was slit up three inches, but this had no influence in relieving or lessening the constriction. On opening the sac it was found to contain about three or four ounces of clear serum, and in addition a knuckle of small intestine tightly gripped by the thick fibrous neck of the sac, which was situated near the internal ring.

The knuckle of intestine was found so placed that while the constriction extended as far as the mesenteric line on one side, on the other it did not quite reach the mesenteric border, and thus the lumen of the gut was not entirely shut off. The bowel was greatly congested, but after the constriction had been relieved and a warm towel had been applied, it regained its normal color sufficiently to make it safe to return it to the abdomen. The sac, which was thicker and very œdematous, was removed and the wound was closed by Bassini's method. A slight drain of iodoform gauze was left in for sixty hours. Union without complication.

A very good historical review of this form of hernia was recently made by Dr. Russell S. Fowler (ANNALS OF SURGERY, May, 1899). He states that in 50 per cent. of the cases the trouble was not recognized, and all of the patients died. Of Treves's four cases three died.

The case here presented is unique as far as I have been able to ascertain, in the fact that it is a partial enterocele in a properitoneal sac.

DR. CURTIS referred to a case of strangulated femoral Richter's hernia in which he was able to make the diagnosis before operation. It involved, perhaps, two-thirds the circumference of the intestine. He treated it by excision of the herniated part and suturing.

PROLAPSE OF THE RECTUM.

Dr. Ellsworth Eliot, Jr., presented a woman, forty years old, who was operated on by Dr. Briddon last January. She had always suffered from constipation, and for the past year she had noticed a descent of the rectum, which at first occurred only with a movement of the bowels, but subsequently whenever she stood up. The difficulty of reducing the prolapsed bowel gradually increased, and the condition caused her considerable annoyance, on account of the inflammation of the prolapsed mucous membrane and the discharge, consisting of mucus and occasionally blood. At the time of operation the prolapse measured three inches in the transverse diameter, between eight and nine inches in its circumference, and three and one-half inches at the margin. The incision was begun at the posterior aspect of the prolapse, a short distance from the junction of the skin and mucous membrane, and carried down into the lumen of the bowel, cutting through both cylinders. When the incision was carried down anteriorly, a pefitoneal sac was found which descended for an inch and one-half below the margin of the anus. Posteriorly, there was no peritoneal sac. With the amputation of the anterior part, the entire lower extremity of the rectum fell down towards the table, presenting nothing more than the descent of the external cylinder. The rectum was then amputated six inches above the anus. The hæmorrhage, which was quite considerable, was controlled by ligatures, and the mucous membrane was brought in contact with the skin. The patient made an uneventful recovery. She has regained a fair control of the function of the rectum, although at times, when the bowels are loose, a small amount of fluid material escapes. This same weakness is noticed when hardened fecal material is in the rectum.

A second patient was shown by Dr. Eliot, a man, forty-two years old, who came to the hospital with a history of hæmorrhoids lasting eight years. Five years ago he had first noticed a prolapse of the mucous membrane of the rectum, and this gradually increased up to the time of his admission, February 18, last. Examination showed a prolapse of the rectum which measured three and one-half inches in its vertical diameter, nine inches in its circumference, and three inches in its transverse diameter. It came down at stool, preceding the discharge of fecal matter. It was becoming reducible with constantly increasing difficulty, some-

times taking fifteen minutes to get it back. The mucous membrane of the bowel had become purplish and congested.

This patient was operated on by Dr. Eliot in the same manner as the preceding case, but with the following modification: A piece of wood, smoothly rounded and covered by gauze, into which a groove had been whittled, was introduced into the bowel and held in place. An incision was then made through the prolapsed bowel anteriorly along the line of the groove, without any attempt, by constriction, to prevent hæmorrhage. The blood-vessels were clamped and then divided. The incision was gradually deepened through the rectal wall until the cavity of the rectum was penetrated. There was no peritoneal prolapse. With the opening of the bowel, the mucous membrane was divided in a circumferential way, extending from the lateral ends of the first incision, parallel with the junction of the anus and mucous membrane, and then, with a large needle and heavy catgut, a strong ligature, or series of ligatures were passed through both cylinders. In this way the two cylinders were sutured together and the blood-vessels in both were surrounded by these ligatures. This was continued around the gut, thus not only suturing the cylinders together, but also preventing any escape of blood after the transverse incision. The anal membrane was then joined to the mucous membrane of the rectum. The hæmorrhage was moderate. There was practically no reaction, and the patient made an uneventful recovery. Since the operation he has been able to restrain the movement of the bowels, excepting when he suffers from diarrhœa.

CASES ILLUSTRATING THE ABILITY OF THE PERITONEUM TO OVERCOME SEPSIS.

Dr. Charles N. Down presented a boy, thirteen years of age, whose previous health had been good, when on June 12, 1899, he had a severe attack of nausea without localized pain, but with much discomfort through the abdomen. This diminished. On June 14 his temperature suddenly went up to 106.6° F., but quickly subsided. There was no chill. The attending physician kept him under very careful observation from that time on. The temperature remained in the vicinity of 100°, occasionally reaching 101° in the afternoon. There was no tenderness or localized pain. On the afternoon of June 21, nine days after the first

onset of the symptoms, he complained of pain in the right iliac region. This increased, and his pulse and temperature rose.

On the afternoon of June 22, when first seen by Dr. Dowd, the boy had a septic appearance and was profoundly prostrated; his pulse was 130, his temperature 103° F. by the mouth; it had been 104° earlier in the day. There was great rigidity of the abdominal muscles, tenderness on the right side, and slight dulness. There was also tenderness in the left iliac region on deep pressure. He had no marked tympanites. He lay with thighs flexed. He had involuntary movements of the bowels, micturition was delayed and somewhat painful. The abdomen was opened as soon as arrangements could be made.

On opening through the peritoneum at the edge of the right rectus muscle, there was a gush of thin pus. This was white but thin, without disagreeable odor, being such as is ordinarily called sero-pus. There must have been at least a quart of it in the abdominal cavity. It came from above, from the sides, and from below; it seemed to be disseminated throughout the abdominal cavity. The intestines were red and had very slight flakes of fibrin upon them.

After the removal of the sero-pus, a wall of adhesions was found around the appendix These adhesions were not firm, but still shut in a small abscess which contained a drachm or two of pus, with a distinctly fecal odor. The appendix was perforated and contained a concretion the size of a date stone.. It was cut off, the stump was cauterized, inverted, and shut in by a purse-string suture. The small abscess cavity about the appendix was cleaned as carefully as could be done by wiping with sterilized pads. Owing to the exigencies of the operation, hot water was used for irrigation instead of saline solution; about four quarts were used. During the first part of the irrigation the patient was turned on his right side so that the region about the appendix should be cleaned first. Much fluid was left in the peritoneal cavity. A piece of gauze packing was left at the site of the appendix and another led to the pelvis, where there was a decided odor to the pus. Another small piece led upward and another towards the median line. The patient was put to bed in bad condition. The foot of the bed was raised about two and one-half feet. Hypodermic stimulation was used.

During the night he improved somewhat. The next fore-

noon calomel was given in three one-grain doses, at intervals of an hour, which he retained. He also took a little water by teaspoonful doses, and in the afternoon a few grains of Rochelle salts in saturated solution. An enema was given and was followed by a free movement.

At the end of twenty-four hours his condition showed decided improvement, the bowels had moved, and the pulse was 110, the temperature 101° F. The abdomen was flat. He improved steadily. The last piece of gauze was removed about ten days after the operation. During the summer he gained his strength satisfactorily.

This patient illustrates the ability of the peritoneum to deal with an extensive amount of inflammation. The conditions which existed were first a rupture of the appendix, which was accompanied by a rise of temperature to 106.6° F. and severe constitutional symptoms. Adhesions were quickly formed about the infective material, and the general peritoneal cavity did not then become infected, but serum was effused in large amount, as usually takes place in these cases. This gradually became filled with leucocytes, and infection had spread at the time of operation, so that the patient's symptoms were of the gravest nature. The prostration was so great that he could not have been expected to survive another twenty-four hours.

On opening the abdomen the evidences of severe infection were most marked about the appendix, where there was pus with a fecal odor and a thick deposit of fibrin. They were next most marked in the pelvis, where the pus also had a foul odor, and where the intestines showed much inflammation. They were least marked in the upper part of the abdominal cavity. When the incision was first made, the pus, which gushed out, came from this region and was without odor. The intestines here were congested, and the deposit of fibrin was very slight indeed. In dealing with the case, the first indication was evidently to clean the area about the appendix itself. The next indication was to treat the pelvis in a similar way. If these two areas were cleaned, it could be fairly expected that the rest of the peritoneum would take care of the inflammation which existed there. In all this procedure the intestines were handled as little as possible. The ultimate result showed that the infection which was left was not more than the patient could deal with perfectly well.

The estimation of the extent to which the peritoneum can overcome infection brings many interesting problems. A few weeks ago, in removing an appendix after the inflammation had subsided, Dr. Dowd found that its tip was included in a mass of adhesions beside the psoas muscle, and found a concretion there which was either liberated from the appendix or from the adhesions by manipulations. Of course this was a septic substance, and the question presented itself as to whether the peritoneum could be trusted to overcome the infection which came from it and from the end of the appendix beside it. Inasmuch as it had already done so once during the acute attack, the reasoning was fair that it could do so again, or, in case it could not do so, that it would at least shut in the infection by adhesions, and that the abdomen could be reopened if necessary. He therefore closed up the abdomen, and there was no evidence of infection afterwards within the abdomen, although there was a small mural abscess which gave the odor of pus which comes about the appendix, and which must have been infected from the appendix or the concretion. In this instance the peritoneum overcame a degree of infection which caused an abscess in the abdominal wall.

A second patient presented was a woman, twenty-five years of age, who had previously been healthy, excepting for an attack of gonorrhœa. In October of last year she had a severe attack of pain in the right iliac region, accompanied with fever and the formation of a mass there. The acuteness of the symptoms subsided after about a week, but she continued to suffer from pain, and the mass was still present. She also had occasional exacerbations of pain which were not severe. She came to the General Memorial Hospital February 2. At that time there was a large nodular mass which was inseparable from the uterus, and which extended nearly to the umbilicus and was held to the right side; it also filled the lower part of the pelvis. While in the hospital she developed severe pain in the left iliac region and ran an afternoon temperature of 102° F. for a few days. Operation was done February 19. There was found to be a large pus tube on the left side, and on the right side an enormous pus tube which had surrounded the uterus in such a way that it was impossible to distinguish which was the uterus and which was the tube, and blended with them there was a parovarian cyst which extended down between the rectum and vagina. The removal of the uterus

and its appendages seemed the only course which promised success, and this was done. The adhesions were very firm and numerous, and pus escaped into the pelvis in small amounts. This was foul smelling, and inasmuch as its extension into the left tube had so recently caused fever, it probably had considerable infective power. As the patient was in the Trendelenburg posture the intestines were out of the way. The pus was caught on pads, the pelvis was wiped as dry as could be, but no irrigation was used. No drainage was used excepting a piece of gauze, which ran into the vagina from a remnant of the cyst which could not be dissected from between the vaginal and rectal walls, and another beside it which led to the cut edges of the vagina above. Recovery took place without incident, and the patient is now in good condition twenty-two days after operation.

Dr. L. W. Hotchkiss referred to the advisability or necessity of introducing gauze drains in different directions into the peritoneal cavity. If one can depend upon the peritoneum to absorb a certain amount of remaining septic products, why should it not be allowed to do so without hampering the ultimate result by introducing drains? Much difficulty may be subsequently experienced in removing such drains. The speaker said that some years ago, before he had adopted his present technique, he had a case of extensive purulent peritonitis in which he packed the cavity in all directions with gauze: the patient recovered, but it required a second surgical operation to remove the gauze. Dr. Hotchkiss said that for the past year or two, in these cases of appendicitis with free pus in the peritoneal cavity, he has abandoned the use of extensive drains in favor of the method employed by Morris in dealing with similar cases, *i.e.*, removal of the appendix, disinfection of the field with peroxide of hydrogen, washing out the pelvic cavity, if there is free pus, with a sterile salt solution, and the introduction of a small gauze drainage wick surrounded by rubber tissue into the pelvis, which is removed in from twenty-four to seventy-two hours. By this method these patients, as a rule, make an excellent recovery, and there is no gauze left to give rise to difficulty later on.

Dr. Down said that in the first case he presented there were four rather small pieces of gauze put in. One was placed over the stump of the appendix, which he thought was necessary. A second piece was inserted into the pelvis, which contained foul

smelling pus. The remaining two he did not think were necessary, and he would omit them in similar cases in the future.

SUPPURATIVE ARTHRITIS OF THE KNEE-JOINT.

DR. JOHN F. ERDMANN presented a boy, nineteen years old, who was admitted to the Gouverneur Hospital on account of an enlargement of the right knee-joint, with effusion. His temperature, at the time of his admission, was 102.5° F. An aspirating needle was first introduced, and a quantity of yellow fluid withdrawn. On the following day, as the temperature still persisted, the joint was opened and washed out with salt solution, and drainage was made for forty-eight hours with a tube into the joint. The pus removed from it was submitted to Dr. E. K. Dunham, who reported that it contained a large number of streptococci. The scar on the outer side is the site of an exploration of the shaft of the femur, as there was great thickening in the lower half of the thigh at the time of drainage of the joint. This thickening was suspected by him to be due to a periostitis or an acute osteomyelitis. A section three-quarters of an inch square was chiselled out of the femur to its medullary canal. No pus being found, the wound was closed without drain. Recovery was uneventful. The boy, who is a professional dancer, has been able to resume his work, the function of the joint being unimpaired.

THE LEUCOCYTE COUNT IN SURGERY.

DR. THEODORE DUNHAM read a paper with the above title, for which see Vol. xxxi, p. 669.

DR. CURTIS said that his own experience with pathologic examinations of the blood as an aid to surgical diagnosis had given rather contradictory results. In some fifty cases at St. Luke's Hospital where the blood-count had been made, only general conclusions were arrived at. As a rule, suppuration existed in those cases of surgical conditions where leucocytosis was present, and yet certain suppurative cases did not show any leucocytosis, and its absence could not be explained. In one case of acute appendicitis in a boy, for instance, there was absolutely no leucocytosis before operation; immediately afterwards the patient developed the ordinary operative leucocytosis. A rapid increase in the number of leucocytes was usually noted after an operation, although in very septic cases they began to fall at once after the

operation. In another case admitted with symptoms of acute appendicitis, an adult, there was no leucocytosis whatever. The patient's temperature was 102° F. On the following day his temperature had fallen to normal, and, as all the symptoms disappeared except the tumor, the question arose whether the case was not one of malignant growth in the neighborhood of the ileocæcal valve. An operation disclosed an extraperitoneal abscess in the appendical region, containing a couple of drachms of very thick, dark colored pus, thus verifying the original diagnosis, and showing the uncertainty of our dependence upon the single symptoms of leucocytosis.

Dr. George E. Brewer expressed the opinion that sooner or later the leucocyte count would prove of great value in determining the question of suppuration. The speaker said he had resorted to it during the past two years in almost every case where a severe suppurative process was going on, and with very few exceptions the measure had proven of positive advantage as an aid to diagnosis. He recalled one case where he had relied upon it absolutely. The patient lived at a great distance from New York, and his symptoms were so indefinite that a positive diagnosis could not be made. The blood-count showed marked leucocytosis, and relying solely upon that, Dr. Brewer said he visited the patient, operated, and found an abscess which was the seat of his trouble.

The speaker said that at the City Hospital, last summer, a large number of leucocyte counts were made, and in only one instance did it apparently fail. The case was one of hæmatocele following a ruptured ectopic pregnancy, and the increased leucocytosis which was present could not be accounted for until the time of operation, when a ruptured appendical abscess was found complicating the hæmatocele.

Dr. Brewer said that at Mt. Sinai Hospital they have been accustomed to make a leucocyte count in cases of suspected appendicitis, and it has proven accurate in almost every instance. One case came in, however, in which the diagnosis was in doubt. The patient was a boy who had a large tumor in the right iliac region. There was a certain amount of fever, but very slight tenderness. He was examined by a number of the hospital staff, and the majority of them regarded the tumor as a rapidly growing sarcoma in the neighborhood of the ileocæcal valve. A blood-count

showed 15,000 white blood-cells. The abdomen was opened, and the tumor was found to consist of a hard mass, involving part of the ascending colon; this was first regarded as a sarcoma, but it subsequently proved to be an inflammatory exudate surrounding the appendix, which was the cause of the trouble. Thus the high leucocytosis in this case was satisfactorily explained.

Soon afterwards another case of suspected appendicitis entered the hospital. There was increased leucocytosis. Operation revealed a large lympho-sarcoma of the small intestines, but apparently no pus whatever. Upon opening the tumor, however, it was found to be perforated by a fistulous tract which communicated with an abscess in the centre of the growth.